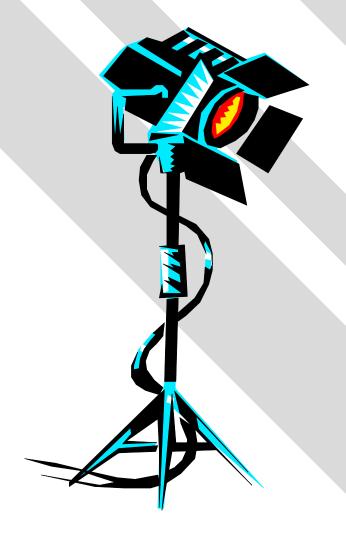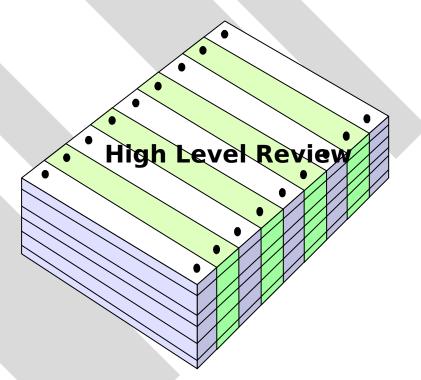**Welcome to the
System Modification Scenario
Requirements Management
Training Class**

Course Overview

- Conduct High Level Review of:
  - Software Process Improvement (SPI)
  - Capability Maturity Model (CMM)
  - System Modification Scenario (SMS)
- Overview of RM
- RM and the CMM
- RM and the FSO Policy
- RM and the SMS

SECTION 1

High Level Review

High Level Review

OBJECTIVES:

- Answer questions about:
  - Software Process Improvement (SPI)
  - Capability Maturity Model (CMM)
  - System Modification Scenario (SMS)
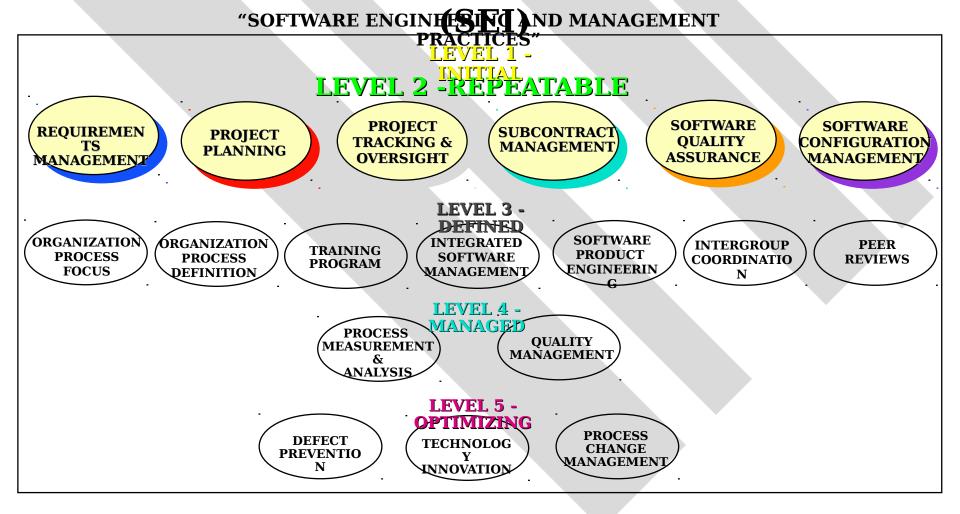
Software Process Improvement (SPI)

- Effort to Improve Software Process
- System of:
  » Tasks
  » Tools
  » Standards, Methods, Practices
- Applicable Throughout Software Life Cycle

Capability Maturity Model (CMM)

- Framework for effective software processes

- Identifies:
  - Maturity Levels
  - Key Process Areas
  - Common Features

KEY PROCESS AREAS (KPAs)
As Defined by
SOFTWARE ENGINEERING INSTITUTE (SEI)
"SOFTWARE ENGINEERING AND MANAGEMENT PRACTICES"

LEVEL 1 - INITIAL

LEVEL 2 - REPEATABLE

- REQUIREMENTS MANAGEMENT
- PROJECT PLANNING
- PROJECT TRACKING & OVERSIGHT
- SUBCONTRACT MANAGEMENT
- SOFTWARE QUALITY ASSURANCE
- SOFTWARE CONFIGURATION MANAGEMENT

LEVEL 3 - DEFINED

- ORGANIZATION PROCESS FOCUS
- ORGANIZATION PROCESS DEFINITION
- TRAINING PROGRAM
- INTEGRATED SOFTWARE MANAGEMENT
- SOFTWARE PRODUCT ENGINEERING
- INTERGROUP COORDINATION
- PEER REVIEWS

LEVEL 4 - MANAGED

- PROCESS MEASUREMENT & ANALYSIS
- QUALITY MANAGEMENT

LEVEL 5 - OPTIMIZING

- DEFECT PREVENTION
- TECHNOLOGY INNOVATION
- PROCESS CHANGE MANAGEMENT

System Modification Scenario (SMS)

SMS REVIEW
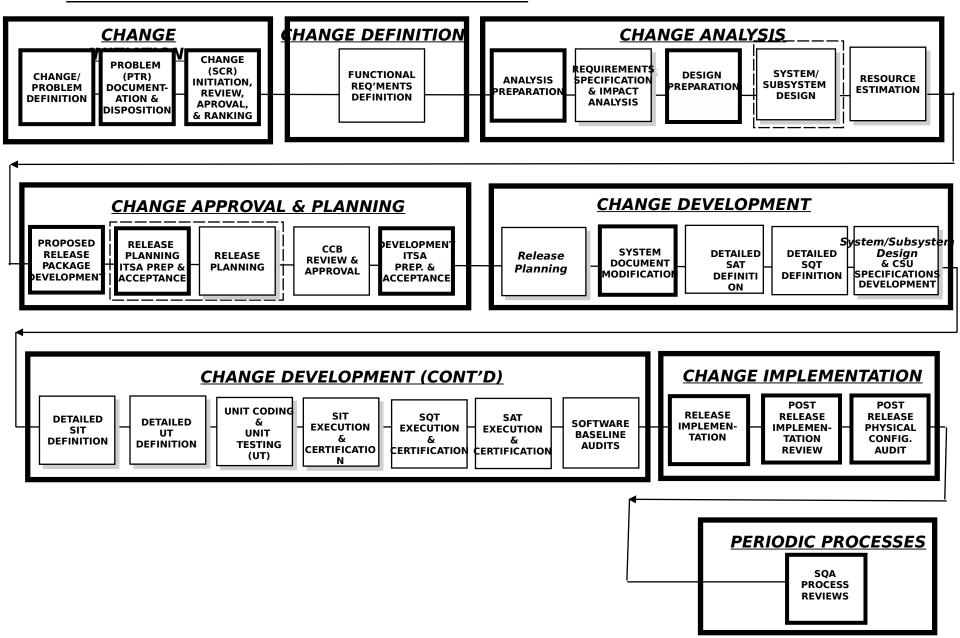
- One part of the Software Process Architecture

- Focuses on routine system modification

- Provides:
  - Process definition
  - Description
  - Documentation

SOFTWARE PROCESS ARCHITECTURE
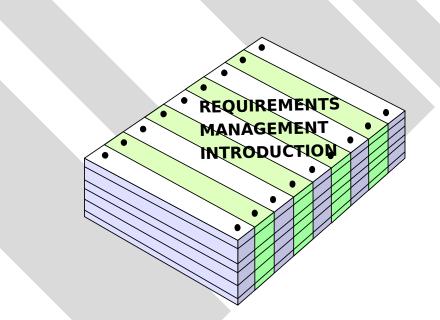
SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

- CHANGE/ PROBLEM DEFINITION
- PROBLEM (PTR) DOCUMENT-ATION & DISPOSITION
- CHANGE (SCR) INITIATION, REVIEW, APROVAL, & RANKING

CHANGE DEFINITION

- FUNCTIONAL REQ'MENTS DEFINITION

CHANGE ANALYSIS

- ANALYSIS PREPARATION
- REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS
- DESIGN PREPARATION
- SYSTEM/ SUBSYSTEM DESIGN
- RESOURCE ESTIMATION

CHANGE APPROVAL & PLANNING

- PROPOSED RELEASE PACKAGE DEVELOPMENT
- RELEASE PLANNING ITSA PREP & ACCEPTANCE
- RELEASE PLANNING
- CCB REVIEW & APPROVAL
- DEVELOPMENT ITSA PREP. & ACCEPTANCE

CHANGE DEVELOPMENT

- Release Planning
- SYSTEM DOCUMENT MODIFICATION
- DETAILED SAT DEFINITION
- DETAILED SQT DEFINITION
- System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT

CHANGE DEVELOPMENT (CONT'D)

- DETAILED SIT DEFINITION
- DETAILED UT DEFINITION
- UNIT CODING & UNIT TESTING (UT)
- SIT EXECUTION & CERTIFICATION
- SQT EXECUTION & CERTIFICATION
- SAT EXECUTION & CERTIFICATION
- SOFTWARE BASELINE AUDITS

CHANGE IMPLEMENTATION

- RELEASE IMPLEMEN-TATION
- POST RELEASE IMPLEMEN-TATION REVIEW
- POST RELEASE PHYSICAL CONFIG. AUDIT

PERIODIC PROCESSES

- SQA PROCESS REVIEWS

Performance Check

**Open the Performance Check Package to
SPI, CMM, SMS Review
and answer the questions.**

SECTION 2

REQUIREMENTS
MANAGEMENT
INTRODUCTION

Requirements Management Introduction

OBJECTIVES:

- Define Requirements Management

- Review CMM's RM Common Features

- Review the FSO RM Policy as it is outlined in the SMS

Requirements Management Introduction

What is Requirements Management?

- **ESTABLISHING** and **MAINTAINING AN AGREEMENT** with the **CUSTOMER** on the requirements for the software project.

Requirements Management Introduction

CMM COMMON FEATURES:

- *Goals*
- Commitment to Perform
- Ability to Perform
- Activity to Perform
- Measurement and Analysis
- Verifying Implementation

Requirements Management Introduction

GOALS:

- Requirements are used to establish a baseline for software engineering and management

- Software plans, products, and activities are kept consistent with the requirements

Requirements Management Introduction

COMMITMENT TO PERFORM:

- Follows a written organizational policy for managing the system requirements allocated to software

Requirements Management Introduction

POLICY SM-11

- Purpose:

  - Provides clearly understood guidance for AIS:
    - » development
    - » modernization
    - » maintenance

  - Addresses standard processes for system requirements:
    - » documentation
    - » control

Requirements Management Introduction

POLICY

- Scope

    - Implement through life cycle for AIS's that are:

        » newly developed

        » migratory

        » interim migratory

        » legacy

Requirements Management Introduction

POLICY

- Goals/Objectives:

  - RM process must achieve:

    » Control over requirements to establish baseline

    » Use of requirements modifications to change plans, products, and activities

Requirements Management Introduction

POLICY

- FSO Director Responsibilities:
    - Establish and publish RM policy
    - Ensure funding is provided to support RM activities

Requirements Management Introduction

POLICY

- FSA/DSE Directors:

  - Ensure all AISs are managed according to RM policy

  - Ensure adequate resources are provided to perform RM

Requirements Management Introduction

POLICY

- AIS/project managers:
  - Designate RM function responsible for RM activities
  - Ensure RM activities are in the SDP
  - Ensure adequate time, resources, training, and time to perform RM activities

Requirements Management Introduction
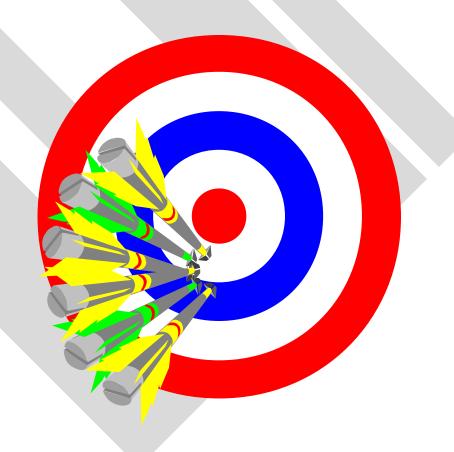
POLICY

- Customer Responsibilities:
  - Document software change requirements via SCR in CMIS or on DFAS form 700
  - Provide acceptance criteria
  - Transmit documentation to FSA/DSEs when approved

Requirements Management Introduction

POLICY

- AIS/project RM Responsibilities:
  - Review approved requirement for necessary information
  - Use specified standard analysis method
  - Document in SCS
  - Update SCS as necessary
  - Participate in SRRs

Requirements Management Introduction

Characteristics of Requirements

- correct
- unambiguous
- complete
- verifiable/testable
- consistent
- understandable
- modifiable
- traceable

Requirements Management Introduction

ABILITY TO PERFORM:

- Responsibility established for analyzing requirements and allocating them

- Allocated requirements are documented

Requirements Management Introduction

ABILITY TO PERFORM CON'T.:

- Adequate resources and funding are provided

- Train in the requirements management procedures

Requirements Management Introduction

MEASUREMENT AND ANALYSIS:

- Determines the status of the activities for managing the allocated requirements

Requirements Management Introduction

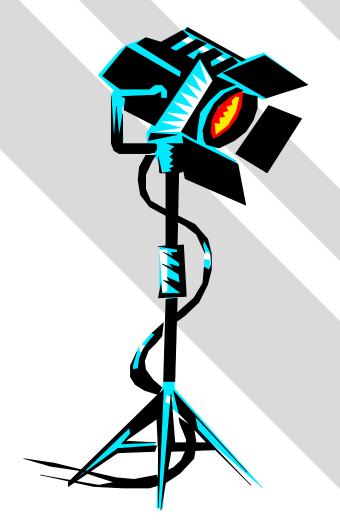## *VERIFYING IMPLEMENTATION:*

- RM function reviews the RM activities with:
    - Senior management - periodic basis
    - Project manager - periodic and event-driven   basis
- SQA reviews and/or audits (per SQAP)
    - Activities
    - Work Products

Performance Check
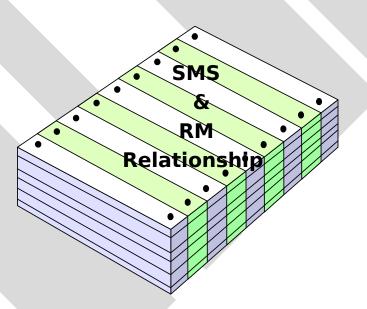
OBJECTIVE:

**Using course materials, the student will define RM and answer
questions about the Requirements Management (RM) policy
and RM common features as identified in the
Capability Maturity Model.**

SECTION 3

SMS
&
RM
Relationship

SMS and RM Relationship
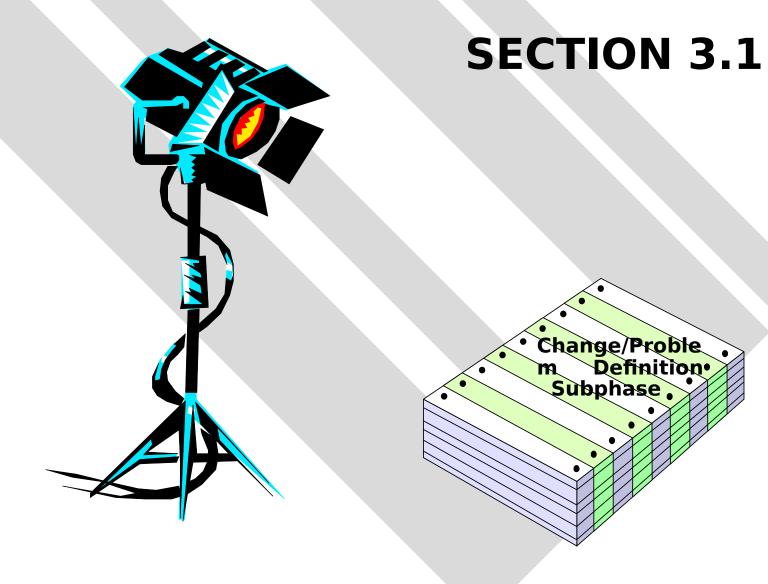
Objective:

- Perform as required by the CMM and SMS:
  - Create, analyze, and categorize a PTR
  - Determine disposition of a PTR
  - Review SCR for Acceptance
  - Complete and review an SCR
  - Conduct detailed impact analysis and review
  - Determine impact of SCR to release

SMS & RM Relationship

Activities performed in Requirements Management:
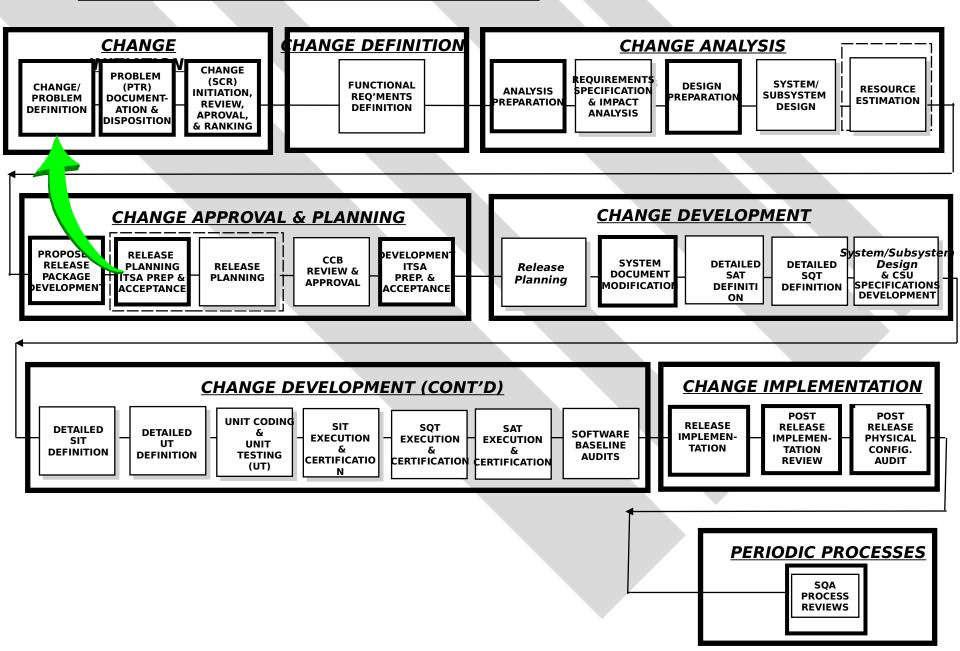
- Software group reviews the requirements

- Software group uses the requirements for plans, work products, and activities

- Changes are reviewed and incorporated into the project

SECTION 3.1

Change/Problem Definition Subphase

SOFTWARE PROCESS ARCHITECTURE

SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

- CHANGE/ PROBLEM DEFINITION
- PROBLEM (PTR) DOCUMENT-ATION & DISPOSITION
- CHANGE (SCR) INITIATION, REVIEW, APPROVAL, & RANKING

CHANGE DEFINITION

- FUNCTIONAL REQ'MENTS DEFINITION

CHANGE ANALYSIS

- ANALYSIS PREPARATION
- REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS
- DESIGN PREPARATION
- SYSTEM/ SUBSYSTEM DESIGN
- RESOURCE ESTIMATION

CHANGE APPROVAL & PLANNING

- PROPOSED RELEASE PACKAGE DEVELOPMENT
- RELEASE PLANNING ITSA PREP & ACCEPTANCE
- RELEASE PLANNING
- CCB REVIEW & APPROVAL
- DEVELOPMENT ITSA PREP. & ACCEPTANCE

CHANGE DEVELOPMENT

- Release Planning
- SYSTEM DOCUMENT MODIFICATION
- DETAILED SAT DEFINITION
- DETAILED SQT DEFINITION
- System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT

CHANGE DEVELOPMENT (CONT'D)

- DETAILED SIT DEFINITION
- DETAILED UT DEFINITION
- UNIT CODING & UNIT TESTING (UT)
- SIT EXECUTION & CERTIFICATION
- SQT EXECUTION & CERTIFICATION
- SAT EXECUTION & CERTIFICATION
- SOFTWARE BASELINE AUDITS

CHANGE IMPLEMENTATION

- RELEASE IMPLEMEN-TATION
- POST RELEASE IMPLEMEN-TATION REVIEW
- POST RELEASE PHYSICAL CONFIG. AUDIT

PERIODIC PROCESSES

- SQA PROCESS REVIEWS

2 TASKS

CHANGE INITIATION PHASE

Change/

Problem

Definition

Subphase

—— Technical Change/Problem Source Identification

—— Technical Change/Problem Preliminary Analysis and Categorization

References/Standards

ANSI/IEEE Std 1042-1987
DFAS 8000.1-R
Mil Std 973

Input (s):

Written/Oral Communication

Technical Change/ Problem Source Identification Task (1 of 2)

Purpose: To identify a proposed technical change and/or problem

Output (s):

Identified Change/ Problem Requirement
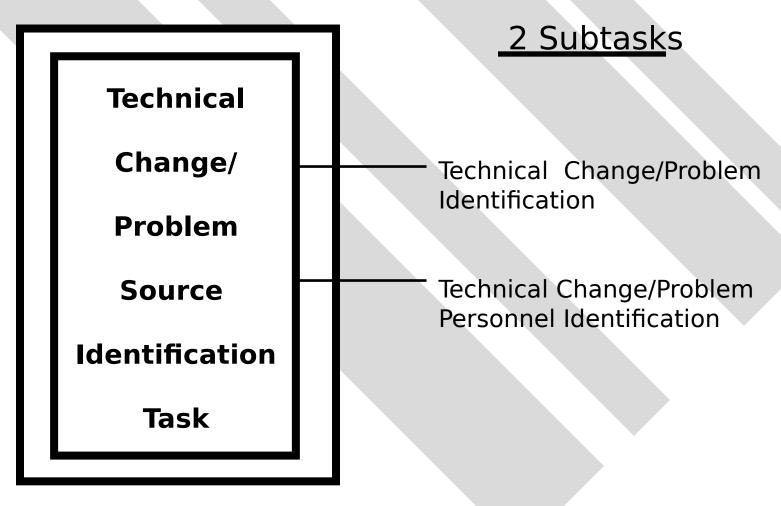
Skill(s) :

Technical Analyst
User/ Functional Analyst

Technical Change/Problem Source Identification Task

2 Subtasks

Technical

Change/

Problem

Source

Identification

Task

Technical Change/Problem Identification

Technical Change/Problem Personnel Identification

Technical Change/Problem Source Identification Task

Technical Change/Problem Identification Subtask (1 of 2)

- Identify a technical problem or a needed change
- Enter into CMIS as PTR or SCR

Technical Change/Problem Source Identification Task

Technical Change/Problem Personnel Identification
Subtask (2 of 2)

- Identify name and organization of the persons reporting
- Enter into CMIS

Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), a proposed change, a blank copy of a System Change Request (SCR), and the Model System, the student will create a technical change/problem and document an SCR.

References/Standards

ANSI/IEEE Std 1042-1987
DFAS 8000.1-R
Mil Std 973

Input (s):

Identified Change/ Problem Requirement

System Documentation

Written/Oral Communication

Output (s):

Categorized Change/ Problem Requirement

Change/Problem Report

Technical Change/Problem Preliminary Analysis and Categorization Task
(2 of 2)

Purpose: To analyze a proposed technical change or problem
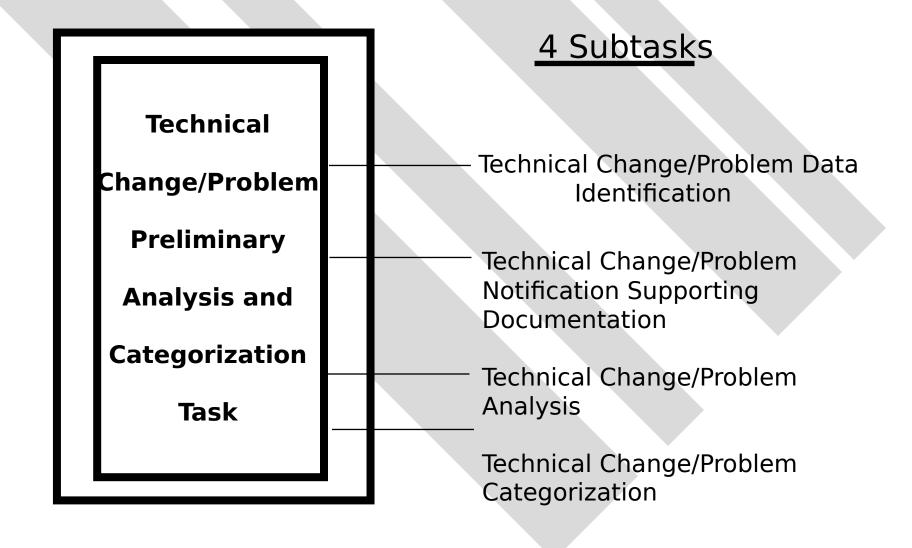
Skill(s) :

Computer Expertise
Functional
Knowledge

4 Subtasks

Technical Change/Problem Preliminary Analysis and Categorization Task

Technical Change/Problem Data Identification

Technical Change/Problem Notification Supporting Documentation

Technical Change/Problem Analysis

Technical Change/Problem Categorization

Technical Change/Problem Preliminary Analysis and Categorization Task

Technical Change/Problem Data Identification
Subtask (1 of 4)

- Identify the proposed technical problem and/or change.

- Provide the appropriate illustrative data along with the problem description.

Technical Change/Problem Preliminary Analysis and Categorization Task

Technical Change/Problem Notification Supporting Documentation Subtask (2 of 4)

- Identify a proposed technical problem and/or change.

- Document proposed requirement/change in CMIS Requirements Definition section of SCR or Problem Trouble Report, if appropriate.

Technical Change/Problem Preliminary Analysis and Categorization Task

Technical Change/Problem Analysis Subtask (3 of 4)

- Review and analyze data and supporting documentation of proposed functional change and/or problem.

Technical Change/Problem Preliminary Analysis and Categorization Task

Technical Change/Problem Categorization Subtask (4 of 4)

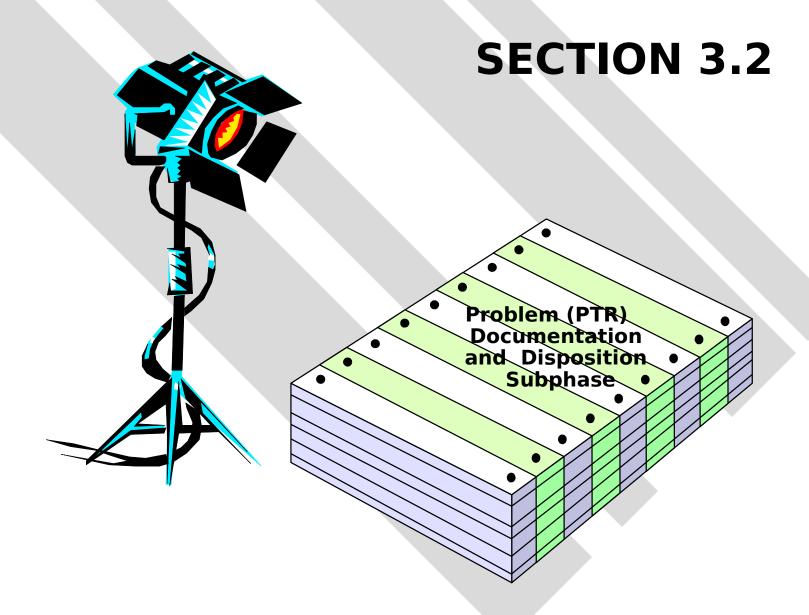- Determine alternative solutions to a technical problem.
- Application systems analyst determination.
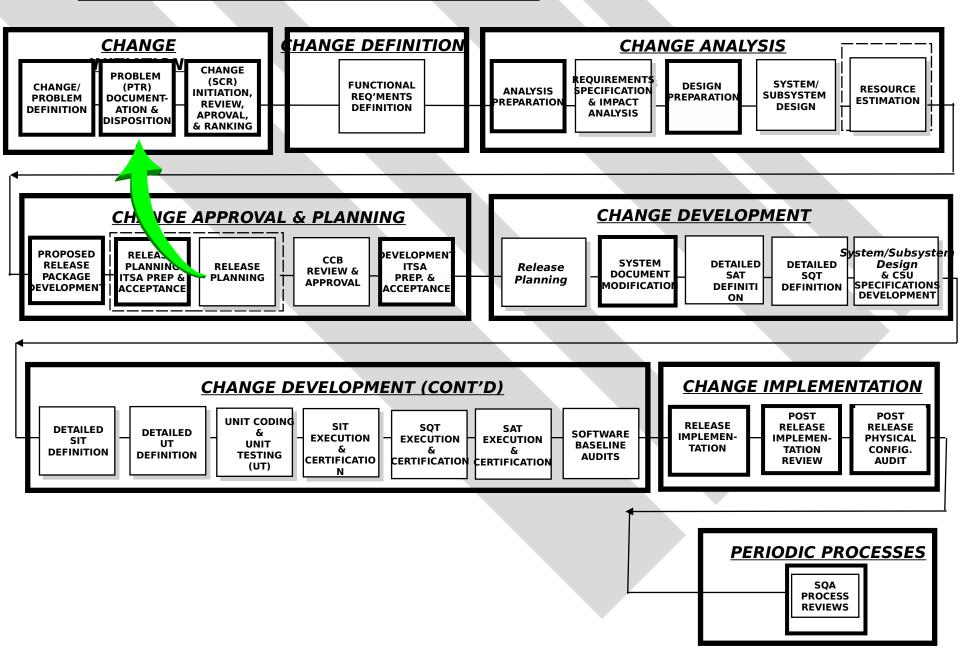
Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), the model system and the identified technical change/problem, the student will be able to perform analysis and categorization of the technical change/problem.

SECTION 3.2

Problem (PTR) Documentation and Disposition Subphase

SOFTWARE PROCESS ARCHITECTURE

SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

- CHANGE/ PROBLEM DEFINITION
- PROBLEM (PTR) DOCUMENT-ATION & DISPOSITION
- CHANGE (SCR) INITIATION, REVIEW, APPROVAL, & RANKING

CHANGE DEFINITION

- FUNCTIONAL REQ'MENTS DEFINITION

CHANGE ANALYSIS

- ANALYSIS PREPARATION
- REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS
- DESIGN PREPARATION
- SYSTEM/ SUBSYSTEM DESIGN
- RESOURCE ESTIMATION

CHANGE APPROVAL & PLANNING

- PROPOSED RELEASE PACKAGE DEVELOPMENT
- RELEASE PLANNING ITSA PREP & ACCEPTANCE
- RELEASE PLANNING
- CCB REVIEW & APPROVAL
- DEVELOPMENT ITSA PREP. & ACCEPTANCE

CHANGE DEVELOPMENT

- Release Planning
- SYSTEM DOCUMENT MODIFICATION
- DETAILED SAT DEFINITION
- DETAILED SQT DEFINITION
- System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT

CHANGE DEVELOPMENT (CONT'D)

- DETAILED SIT DEFINITION
- DETAILED UT DEFINITION
- UNIT CODING & UNIT TESTING (UT)
- SIT EXECUTION & CERTIFICATION
- SQT EXECUTION & CERTIFICATION
- SAT EXECUTION & CERTIFICATION
- SOFTWARE BASELINE AUDITS

CHANGE IMPLEMENTATION

- RELEASE IMPLEMEN-TATION
- POST RELEASE IMPLEMEN-TATION REVIEW
- POST RELEASE PHYSICAL CONFIG. AUDIT

PERIODIC PROCESSES

- SQA PROCESS REVIEWS

1 TASK

CHANGE INITIATION PHASE

Problem (PTR)

Documentation

and

Disposition

Subphase

Technical PTR Analysis

References/Standards

DFAS 8000.1-R
CMIS Procedures
Guide
Mil Std 973
ANSI/IEEE Std 1042-1987

Input (s):

Output (s):

Program Trouble
Report (PTR)

Technical PTR Analysis

Task
(1 of 1)
Purpose: To analyze
the PTR to determine
a recommended
disposition
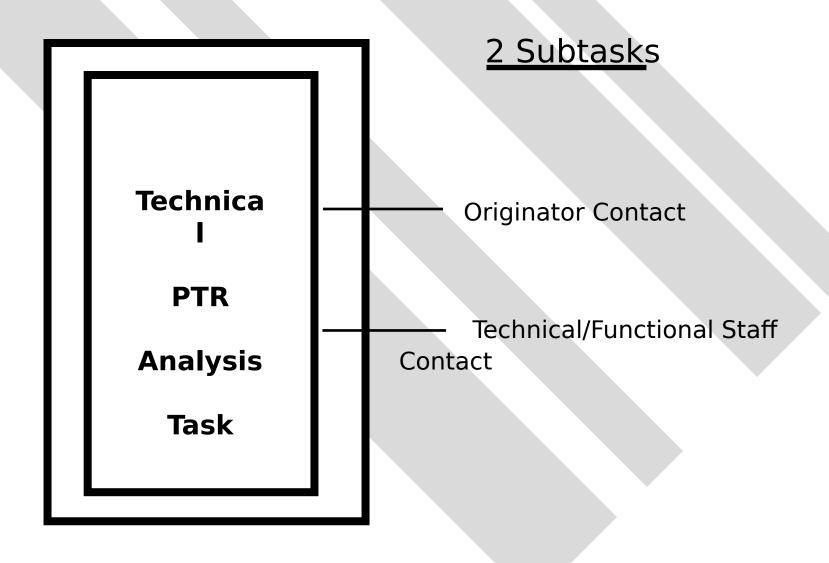
Cancelled Program
Trouble Report (PTR)

System Change Request
(SCR)

Skill(s) :

Computer Expertise

2 Subtasks

Technical

PTR

Analysis

Task

Originator Contact

Technical/Functional Staff Contact

Technical PTR Analysis Task

Originator Contact   Subtask (1 of 2)

- Contact the originator of the PTR

Technical/Functional Staff Contact Subtask (2 of 2)

- Contact system technical staff or functional analyst:
  - Is CI corrective action necessary
  - Can a customer correction be made
  - Is this a new requirement

Performance Check

OBJECTIVE:

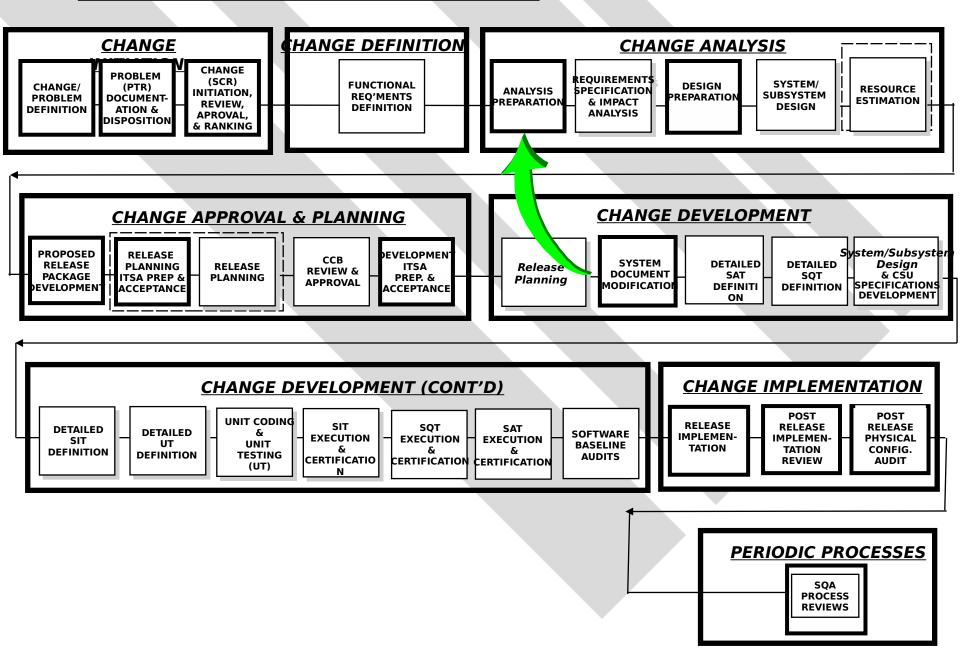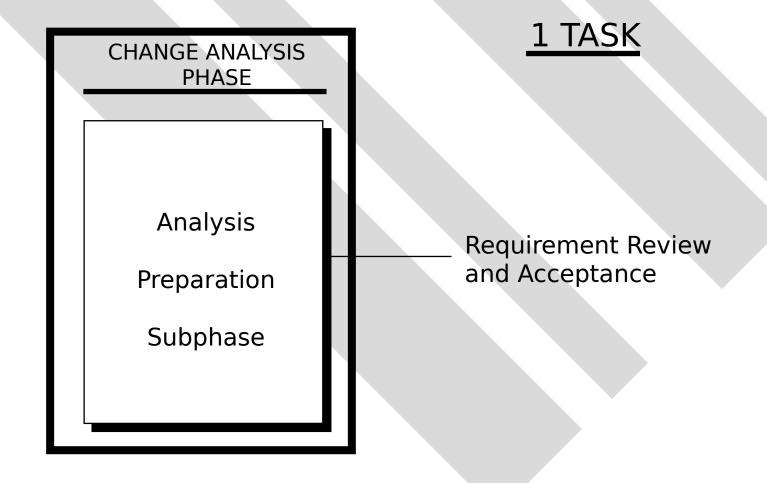**Using the System Modification Scenario (SMS), the model system and a Problem Trouble Report (PTR), the student will determine the disposition of the PTR.**

SOFTWARE PROCESS ARCHITECTURE

SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

- CHANGE/ PROBLEM DEFINITION
- PROBLEM (PTR) DOCUMENT-ATION & DISPOSITION
- CHANGE (SCR) INITIATION, REVIEW, APPROVAL, & RANKING

CHANGE DEFINITION

- FUNCTIONAL REQ'MENTS DEFINITION

CHANGE ANALYSIS

- ANALYSIS PREPARATION
- REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS
- DESIGN PREPARATION
- SYSTEM/ SUBSYSTEM DESIGN
- RESOURCE ESTIMATION

CHANGE APPROVAL & PLANNING

- PROPOSED RELEASE PACKAGE DEVELOPMENT
- RELEASE PLANNING ITSA PREP & ACCEPTANCE
- RELEASE PLANNING
- CCB REVIEW & APPROVAL
- DEVELOPMENT ITSA PREP. & ACCEPTANCE

CHANGE DEVELOPMENT

- Release Planning
- SYSTEM DOCUMENT MODIFICATION
- DETAILED SAT DEFINITION
- DETAILED SQT DEFINITION
- System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT

CHANGE DEVELOPMENT (CONT'D)

- DETAILED SIT DEFINITION
- DETAILED UT DEFINITION
- UNIT CODING & UNIT TESTING (UT)
- SIT EXECUTION & CERTIFICATION
- SQT EXECUTION & CERTIFICATION
- SAT EXECUTION & CERTIFICATION
- SOFTWARE BASELINE AUDITS

CHANGE IMPLEMENTATION

- RELEASE IMPLEMEN-TATION
- POST RELEASE IMPLEMEN-TATION REVIEW
- POST RELEASE PHYSICAL CONFIG. AUDIT

PERIODIC PROCESSES

- SQA PROCESS REVIEWS

1 TASK

CHANGE ANALYSIS PHASE

Analysis

Preparation

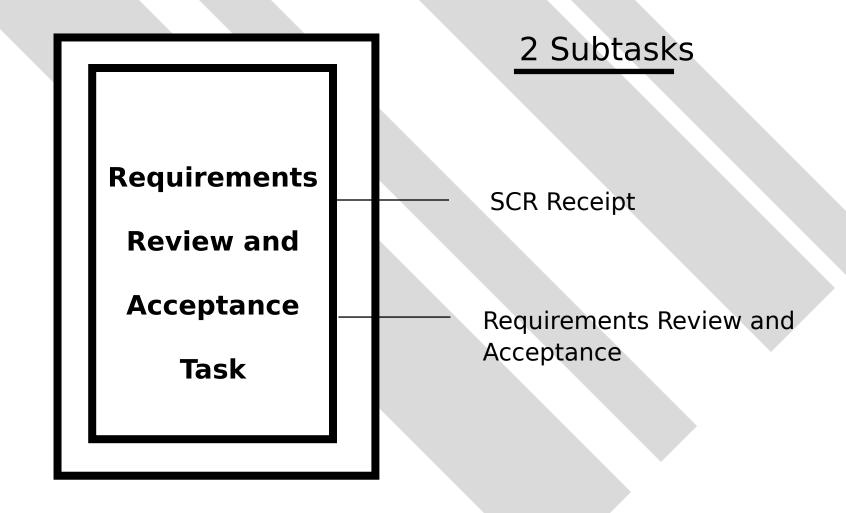Subphase

Requirement Review and Acceptance

Input (s):

Functionally-Defined System Change Request

**Requirement Review and Acceptance Task
(1 of 1)
Purpose: To review the functional requirements of SCR until understood**

Output (s):

FSA-Accepted System Change Request

Requirements Review and Acceptance Task

2 Subtasks

SCR Receipt

Requirements Review and Acceptance

Requirement Review and Acceptance Task

SCR Receipt   Subtask (1 of 2)

- SCR received via CMIS or DFAS Form 700

- Log in receipt of DFAS Form 700

Requirements Review and Acceptance Subtask (2 of 2)

- Review

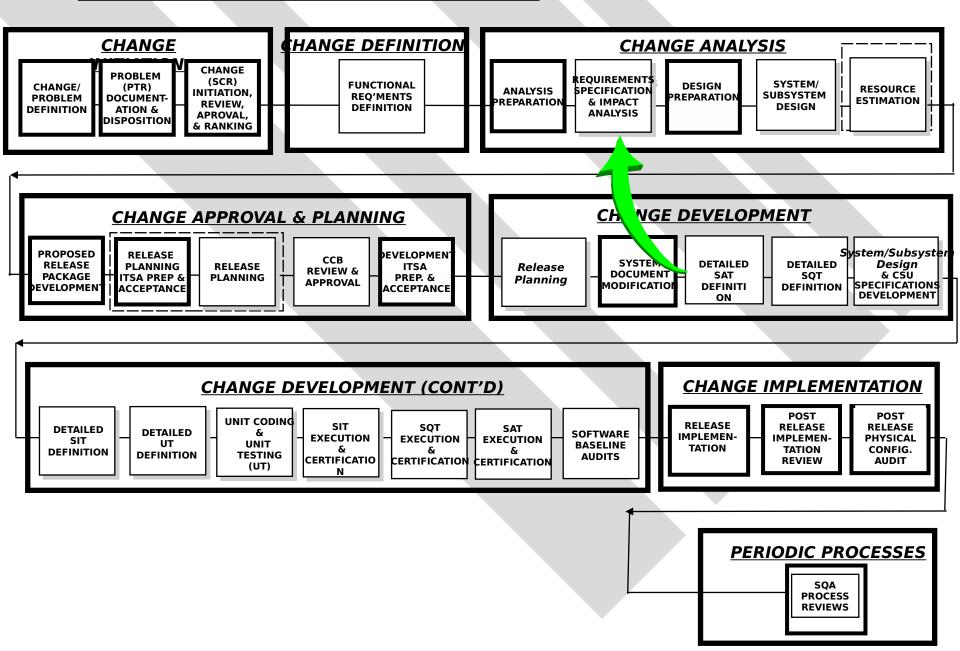- Clarification

- FSA Acceptance

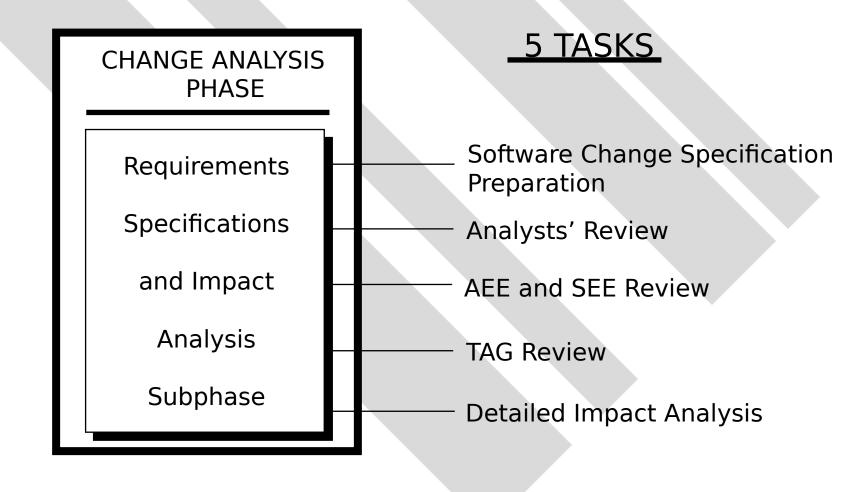# Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), the RM Policy, the functionally/technically defined System Change Requests (SCR), the student will review the SCRs for acceptance.

SOFTWARE PROCESS ARCHITECTURE
SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

CHANGE/ PROBLEM DEFINITION	PROBLEM (PTR) DOCUMENT-ATION & DISPOSITION	CHANGE (SCR) INITIATION, REVIEW, APPROVAL, & RANKING

CHANGE DEFINITION

FUNCTIONAL REQ'MENTS DEFINITION

CHANGE ANALYSIS

ANALYSIS PREPARATION	REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS	DESIGN PREPARATION	SYSTEM/ SUBSYSTEM DESIGN	RESOURCE ESTIMATION

CHANGE APPROVAL & PLANNING

PROPOSED RELEASE PACKAGE DEVELOPMENT	RELEASE PLANNING ITSA PREP & ACCEPTANCE	RELEASE PLANNING	CCB REVIEW & APPROVAL	DEVELOPMENT ITSA PREP. & ACCEPTANCE

CHANGE DEVELOPMENT

Release Planning	SYSTEM DOCUMENT MODIFICATION	DETAILED SAT DEFINITION	DETAILED SQT DEFINITION	System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT

CHANGE DEVELOPMENT (CONT'D)

DETAILED SIT DEFINITION	DETAILED UT DEFINITION	UNIT CODING & UNIT TESTING (UT)	SIT EXECUTION & CERTIFICATION	SQT EXECUTION & CERTIFICATION	SAT EXECUTION & CERTIFICATION	SOFTWARE BASELINE AUDITS

CHANGE IMPLEMENTATION

RELEASE IMPLEMEN-TATION	POST RELEASE IMPLEMEN-TATION REVIEW	POST RELEASE PHYSICAL CONFIG. AUDIT

PERIODIC PROCESSES

SQA PROCESS REVIEWS

CHANGE ANALYSIS
PHASE

Requirements

Specifications

and Impact

Analysis

Subphase

5 TASKS

Software Change Specification Preparation

Analysts' Review

AEE and SEE Review

TAG Review
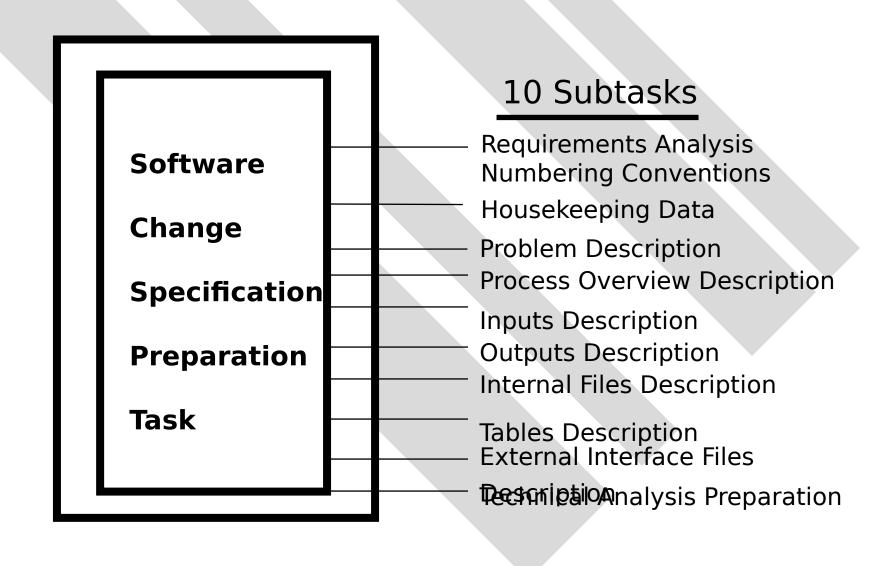
Detailed Impact Analysis

Input (s):

Output (s):

**FSA-Accepted
System Change
Request**

**Software Change
Specification Preparation
Task
(1 of 5)
Purpose: To provide analysis
of functional and technical
SCRs**

**FSA-Analyzed
System Change
Request**

Software

Change

Specification

Preparation

Task

10 Subtasks

Requirements Analysis
Numbering Conventions

Housekeeping Data

Problem Description

Process Overview Description

Inputs Description

Outputs Description

Internal Files Description

Tables Description

External Interface Files
Description

Technical Analysis Preparation

Software Change Specification Preparation Task

Requirements Analysis Numbering Conventions Subtask (Opt.) (1 of 10)

- Describes the SCS numbering conventions for the following categories:
  - Housekeeping   - Problem Description
  - Process Overview   - Input
  - Output   - Internal Files
  - Tables   - External Interfaces

Software Change Specification Preparation Task

Housekeeping Data Subtask (2 of 10)

- Recording Information

- Analyst Name

- Date of creation

- Related SCRs

- Point of Contact

Software Change Specification Preparation Task

Problem Description   Subtask (3 of 10)

- Pertinent background and/or policy information not previously recorded

Process Overview Description

Subtask (4 of 10)

- Current Process Overview

- Proposed Process Overview

Software Change Specification Preparation Task

Input Description   Subtask (5 of 10)

- Input Definition

- Data Element Definition

Output Description   Subtask (6 of 10)

- Output Definition

- Data Element Definition

Software Change Specification Preparation Task

Internal Files Description   Subtask (7 of 10)

- Internal Files Definition
- Data Element Definition

Tables Description   Subtask (8 of 10)

- Tables Definition
- Data Element Definition

Software Change Specification Preparation Task

External Interface Files Description Subtask (9 of 10)

- External Interface Files Definition
- Data Element Definition

Software Change Specification Preparation Task

Technical Analysis Preparation Subtask (10 of 10)

- Change Preparation
    - Environmental
    - Ergonomic
    - Performance
    - Availability
    - Material
    - Training
    - Design

Performance Check

<u>**OBJECTIVE:**</u>

Using the System Modification Scenario (SMS), FSA-Accepted System Change Requests (SCR), and a Software Change Specifications (SCS) template, the student will complete an SCS.
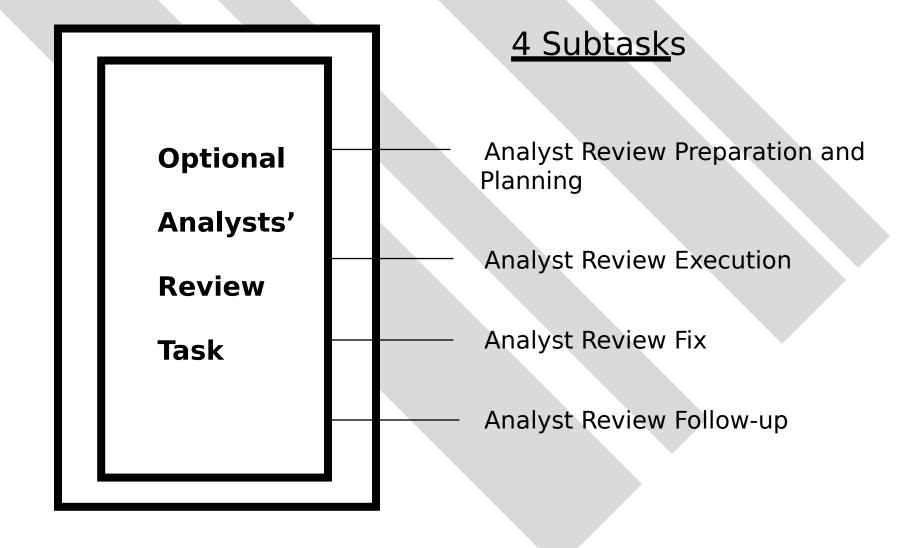
Input (s):

Output (s):

**FSA-Analyzed
System Change
Request**

**Analysts' Review
Task
(2 of 5)**

**Purpose: Peer review
of SCR before
submitted to SRR**

Analyst Review Report

**FSA-Analyzed
System Change
Request**

"OPTIONAL"

4 Subtasks

Optional

Analysts'

Review

Task

Analyst Review Preparation and Planning

Analyst Review Execution

Analyst Review Fix

Analyst Review Follow-up

Analysts' Review Task (Optional)

Analyst Review Preparation and Planning Subtask (1 of 4)

- Select participants
- Prepare documents
- Make meeting arrangements
- Analyst Review Document

Analysts' Review Task (Optional)

Analyst Review Execution Subtask (2 of 4)

- Execute Analysts' Review of change specification
  - Completeness
  - Feasibility
  - Clarity
  - Consistency
  - Testability

Analysts' Review Task (Optional)

Analyst Review Fix   Subtask (3 of 4)

- Correct deficiencies

Analysts' Review Task (Optional)

Analyst Review Follow-up Subtask (4 of 4)

- Review Follow-up Resolution

Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), the FSA-Analyzed System Change Requests (SCR), and the completed Software Change Specifications (SCS), the student will perform an analyst's review.
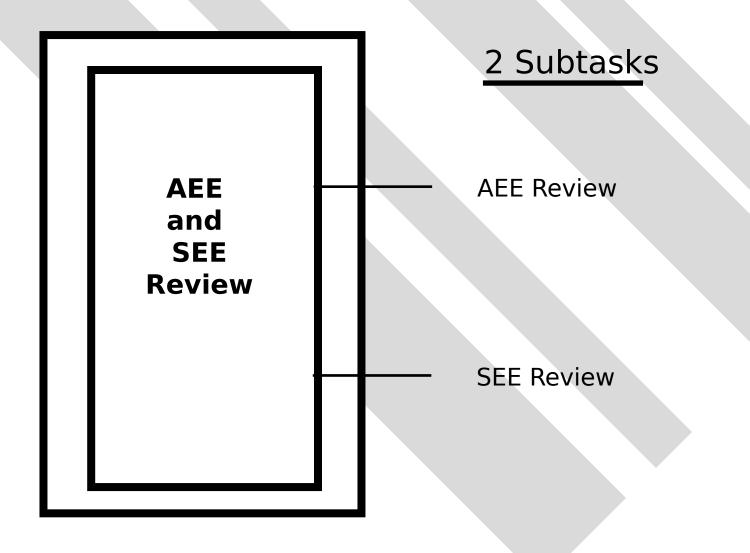
Input (s):

Output (s):

**AEE and SEE Review
(3 of 5)
Purpose: Determine
operational changes**

Skill(s) :

**Computer
expertise**

2 Subtasks

AEE and SEE Review

AEE Review

SEE Review

AEE and SEE Review

AEE Review   Subtask (1 of 2)

- Where the system runs

SEE Review   Subtask (2 of 2)

- Where the development occurs

For both of these subtasks:

- Review for changes or upgrades
- Consider needs and proposals
- Hardware, software, communications

References/Standards

**SM-04, TARB Policy
SM-09, TAG Policy**

Input (s):

Output (s):

**TAG
Questionnaire** →
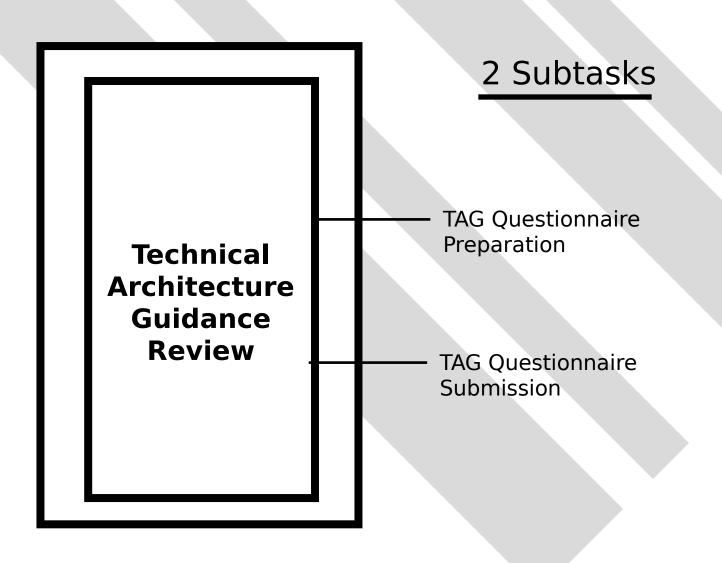
TCMB Approval →

┌─────────────────────────┐
│ **TAG Review**   │
│ **(4 of 5)**   │
│ **Purpose: Verify**   │
│ **Architecture supports**│
│ **FSO Corporate**   │
│ **Computing Strategy** │
└─────────────────────────┘

Approved TAG →

Skill(s) :

**Computer
expertise**

2 Subtasks

Technical Architecture Guidance Review

TAG Questionnaire Preparation

TAG Questionnaire Submission

TAG Review

TAG Questionnaire Preparation Subtask (1 of 2)

- Describe purpose of request

- Include requirements for:
    - batch processing
    - stored data
    - interface
    - interactive data entry

TAG Review

TAG Questionnaire Preparation (cont.)

- Include requirements for
    - interactive query
    - security
    - current available hardware, software, and communication setup
    - ad hoc query
    - AEE preferences

TAG Review

TAG Questionnaire Preparation (cont.)

- Include requirements for
  - SEE preferences
  - GUI
  - e-mail interface
  - non-DFAS user requirements
  - principal end-user information

TAG Review

TAG Questionnaire Submission Subtask (2 of 2)

- Submit hard and soft copy of the TAG to the TARB

- Address to FSO-HQ,SMD, ATTN Technical Architecture Review Board

References/Standards

ANSI/IEEE Std 1042-1987
CMIS Procedures Guide
DFAS 8000.1-R
Mil Std 973

Input (s):

FSA-Analyzed System Change Request

System Documentation

System Specification

Output (s):

FSA-Impacted System Change Request
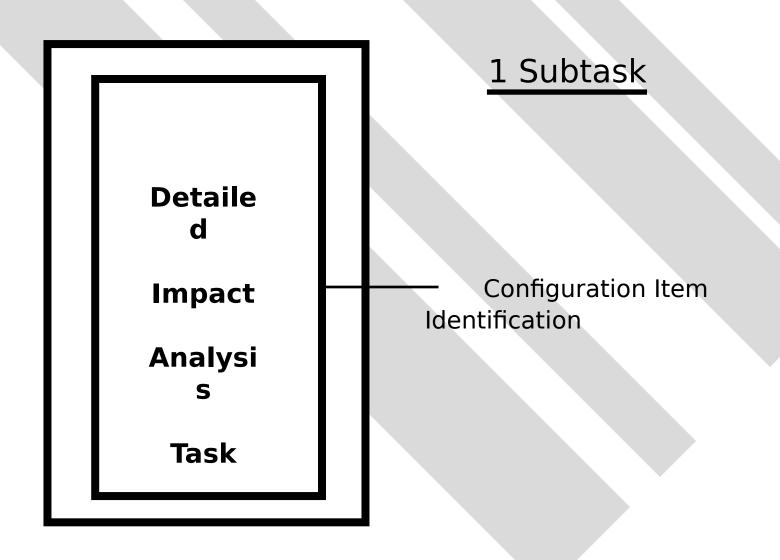
**Detailed Impact Analysis Task
(5 of 5)
Purpose: To examine SCR to prepare for detailed impact analysis**

Skill(s) :

Computer expertise

1 Subtask

Detailed

Impact

Analysis

Task

Configuration Item Identification

Detailed Impact Analysis Task

Configuration Item Identification Subtask (1 of 1)

- CI Determination and Documentation
- New Configuration Items Addition
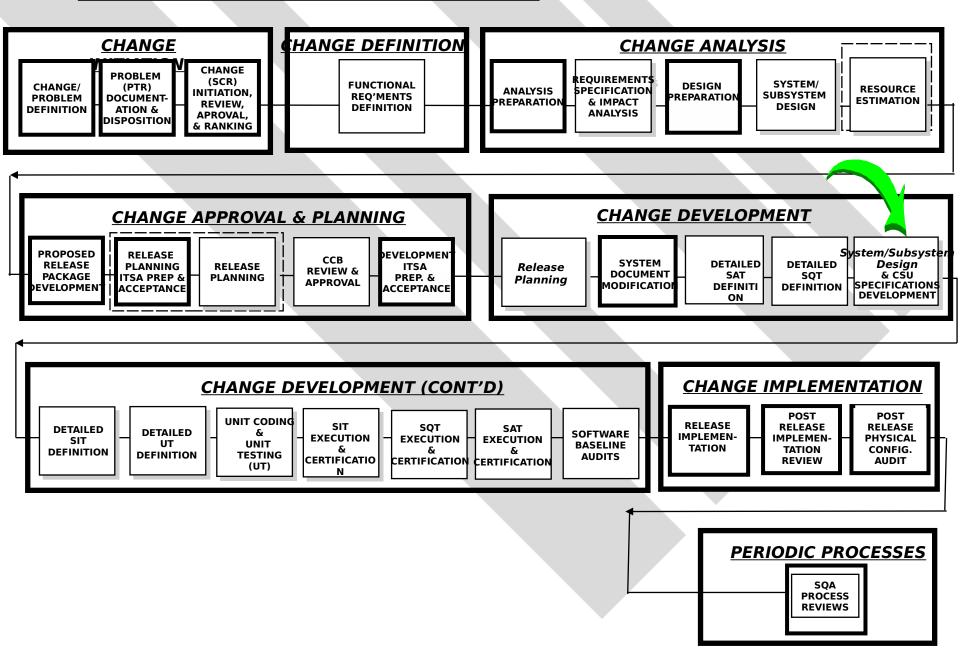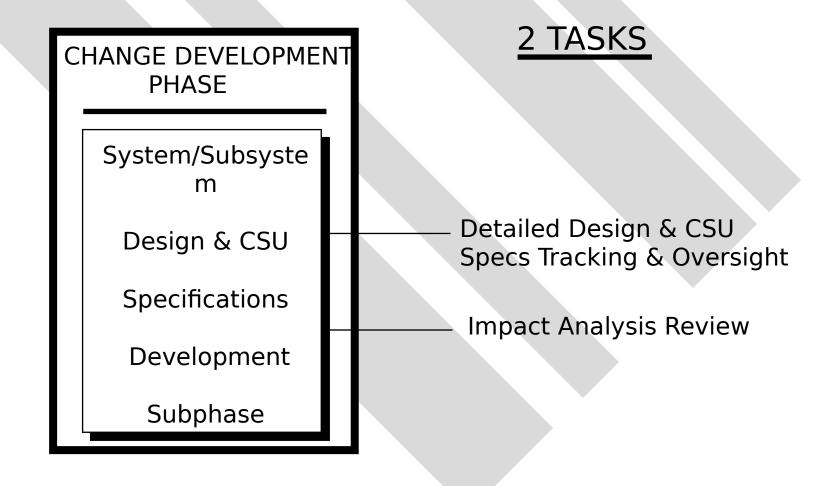
Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), the FSA-Analyzed System Change Requests (SCR), and the Model System, the student will prepare the detailed impact analysis.

SOFTWARE PROCESS ARCHITECTURE

SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

| CHANGE/ PROBLEM DEFINITION | PROBLEM (PTR) DOCUMENT-ATION & DISPOSITION | CHANGE (SCR) INITIATION, REVIEW, APPROVAL, & RANKING |

CHANGE DEFINITION

| FUNCTIONAL REQ'MENTS DEFINITION |

CHANGE ANALYSIS

| ANALYSIS PREPARATION | REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS | DESIGN PREPARATION | SYSTEM/ SUBSYSTEM DESIGN | RESOURCE ESTIMATION |

CHANGE APPROVAL & PLANNING

| PROPOSED RELEASE PACKAGE DEVELOPMENT | RELEASE PLANNING ITSA PREP & ACCEPTANCE | RELEASE PLANNING | CCB REVIEW & APPROVAL | DEVELOPMENT ITSA PREP. & ACCEPTANCE |

CHANGE DEVELOPMENT

| Release Planning | SYSTEM DOCUMENT MODIFICATION | DETAILED SAT DEFINITION | DETAILED SQT DEFINITION | System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT |

CHANGE DEVELOPMENT (CONT'D)

| DETAILED SIT DEFINITION | DETAILED UT DEFINITION | UNIT CODING & UNIT TESTING (UT) | SIT EXECUTION & CERTIFICATION | SQT EXECUTION & CERTIFICATION | SAT EXECUTION & CERTIFICATION | SOFTWARE BASELINE AUDITS |

CHANGE IMPLEMENTATION

| RELEASE IMPLEMEN-TATION | POST RELEASE IMPLEMEN-TATION REVIEW | POST RELEASE PHYSICAL CONFIG. AUDIT |

PERIODIC PROCESSES

| SQA PROCESS REVIEWS |

2 TASKS

CHANGE DEVELOPMENT PHASE

System/Subsystem

Design & CSU

Specifications

Development

Subphase

Detailed Design & CSU
Specs Tracking & Oversight

Impact Analysis Review

Input (s):

Output (s):

**FSA-Impacted
System Change
Request**

**Impact Analysis
Review
Task
(2 of 2)
Purpose: To review
and
verify system
impacts**
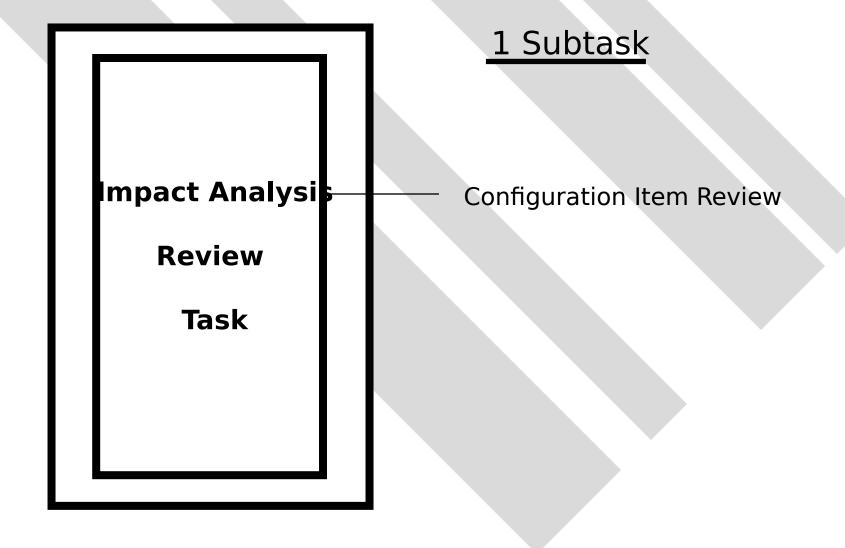
**FSA-Impacted
System Change
Request**

Skill(s):

**Development
Subject Matter Manager (SMM)
Expertise
Subject Matter Expertise
Systems Design
Testing**

1 Subtask

Impact Analysis

Review

Task

Configuration Item Review

Impact Analysis Review Task

Configuration Item Review Subtask (1 of 1)

- Finalize the CIs required to change
- List the system components requiring change
- Enter CI in the technical analysis section of the SCR
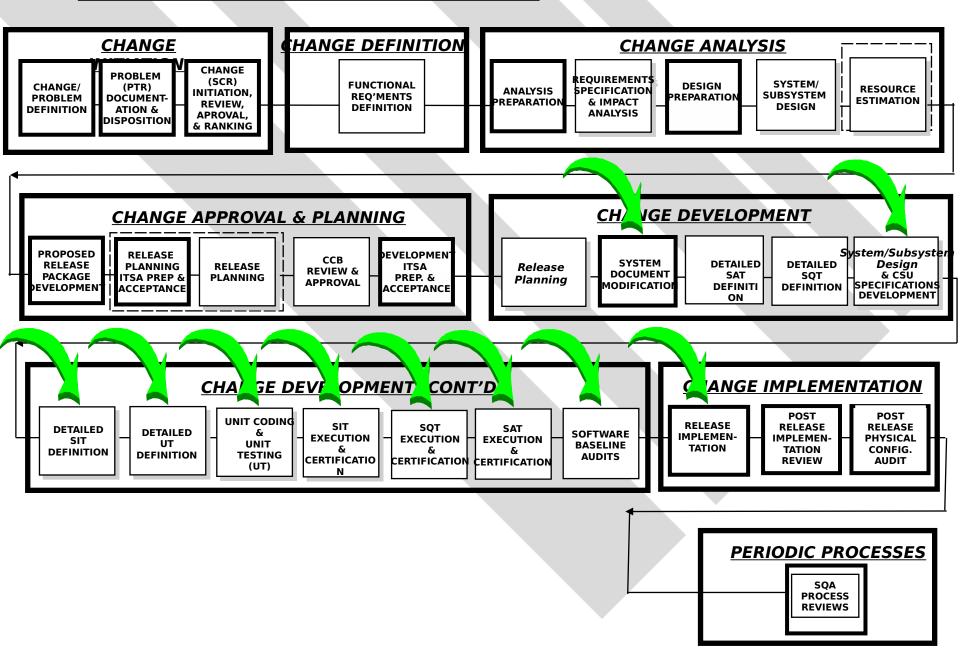- If necessary, add new CIs to system tables

Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), the FSA-Impacted System Change Requests (SCR), and the Model System, the student will perform an impact analysis review.

SOFTWARE PROCESS ARCHITECTURE

SYSTEM MODIFICATION SCENARIO - PHASES & SUBPHASES

CHANGE INITIATION

CHANGE/ PROBLEM DEFINITION	PROBLEM (PTR) DOCUMENT- ATION & DISPOSITION	CHANGE (SCR) INITIATION, REVIEW, APPROVAL, & RANKING

CHANGE DEFINITION

FUNCTIONAL REQ'MENTS DEFINITION

CHANGE ANALYSIS

ANALYSIS PREPARATION	REQUIREMENTS SPECIFICATION & IMPACT ANALYSIS	DESIGN PREPARATION	SYSTEM/ SUBSYSTEM DESIGN	RESOURCE ESTIMATION

CHANGE APPROVAL & PLANNING

PROPOSED RELEASE PACKAGE DEVELOPMENT	RELEASE PLANNING ITSA PREP & ACCEPTANCE	RELEASE PLANNING	CCB REVIEW & APPROVAL	DEVELOPMENT ITSA PREP. & ACCEPTANCE

CHANGE DEVELOPMENT

Release Planning	SYSTEM DOCUMENT MODIFICATION	DETAILED SAT DEFINITION	DETAILED SQT DEFINITION	System/Subsystem Design & CSU SPECIFICATIONS DEVELOPMENT

CHANGE DEVELOPMENT CONT'D

DETAILED SIT DEFINITION	DETAILED UT DEFINITION	UNIT CODING & UNIT TESTING (UT)	SIT EXECUTION & CERTIFICATION	SQT EXECUTION & CERTIFICATION	SAT EXECUTION & CERTIFICATION	SOFTWARE BASELINE AUDITS

CHANGE IMPLEMENTATION

RELEASE IMPLEMEN- TATION	POST RELEASE IMPLEMEN- TATION REVIEW	POST RELEASE PHYSICAL CONFIG. AUDIT

PERIODIC PROCESSES

SQA PROCESS REVIEWS

CHANGE DEVELOPMENT **&** CHANGE IMPLEMENTATION PHASES

SYSTEM DOCUMENTATION MODIFICATION SUBPHASE

UNIT CODING & UNIT TESTING SUBPHASE

SYSTEM/SUBSYSTEM DESIGN & CSU SPECIFICATIONS DEVELOPMENT SUBPHASE

SOFTWARE INTEGRATION TEST (SIT) EXECUTION & CERTIFICATION SUBPHASE

TRACKING AND OVERSIGHT TASK

DETAILED SYSTEM INTEGRATION TEST (SIT) DEFINITION SUBPHASE

SOFTWARE QUALITY TEST (SQT) EXECUTION & CERTIFICATION SUBPHASE

DETAILED UNIT TEST (UT) DEFINITION SUBPHASE

SOFTWARE ACCEPTANCE (SAT) EXECUTION & CERTIFICATION SUBPHASE

RELEASE IMPLEMENTATION SUBPHASE

Input (s):

Deliverable Review Proceedings

Periodic Review Proceedings
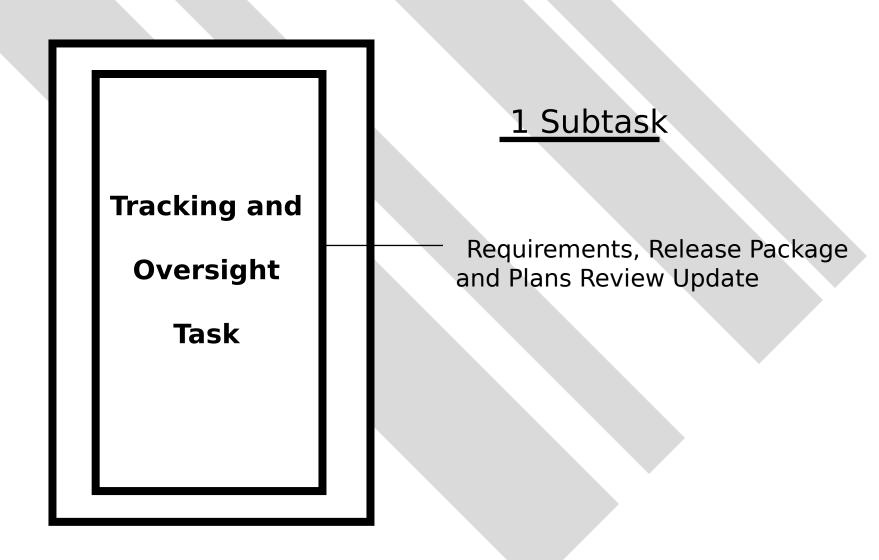
Software Development Plan

Output (s):

Amended Software Development Plan

Deliverable Review Proceedings

Periodic Review Proceedings

Release Metrics Data

Tracking and Oversight Task (1 of 1)

Purpose: To perform ongoing tracking and oversight functions to keep management informed of progress of the release

Skill(s):

Computer Expertise
Project Management

Tracking and Oversight Task

1 Subtask

Requirements, Release Package and Plans Review Update

Tracking and Oversight Task

Requirements, Release Package and Plans Review Update Subtask (1 of 1)

- SCR Requirement Definition Review and Update
- SCR Change Specification Review and Update
- SCR Amendment Creation/Update
- Communication and Track Amendments
- Update Other Products

Performance Check

OBJECTIVE:

Using the System Modification Scenario (SMS), and the Model System, milestones and a SCR amendment, the student will evaluate and identify impacts to the release.

CONGRATULATIONS

YOU HAVE

SUCCESSFULLY COMPLETED THE

REQUIREMENTS MANAGEMENT COURSE

Requirements Management Introduction

POLICY

- OBJECTIVES:

  - Change requirements must be:

    » feasible and appropriate for software implementation

    » clear and properly stated

    » consistent

    » testable

    » documented

    » the basis for all project commitment

    » the basis for all work plans, products a...

Requirements Management Introduction

POLICY

- REQUIREMENT CATEGORIES:
  - Functional
  - Acceptance Criteria
  - Technical
  - Other